

Calculations of Eastside Tributary Dilution Flows (Section A)

MAA Draft Compliance and Evaluation Plan

**August 24, 2009
1:30 pm – 3:30 pm**

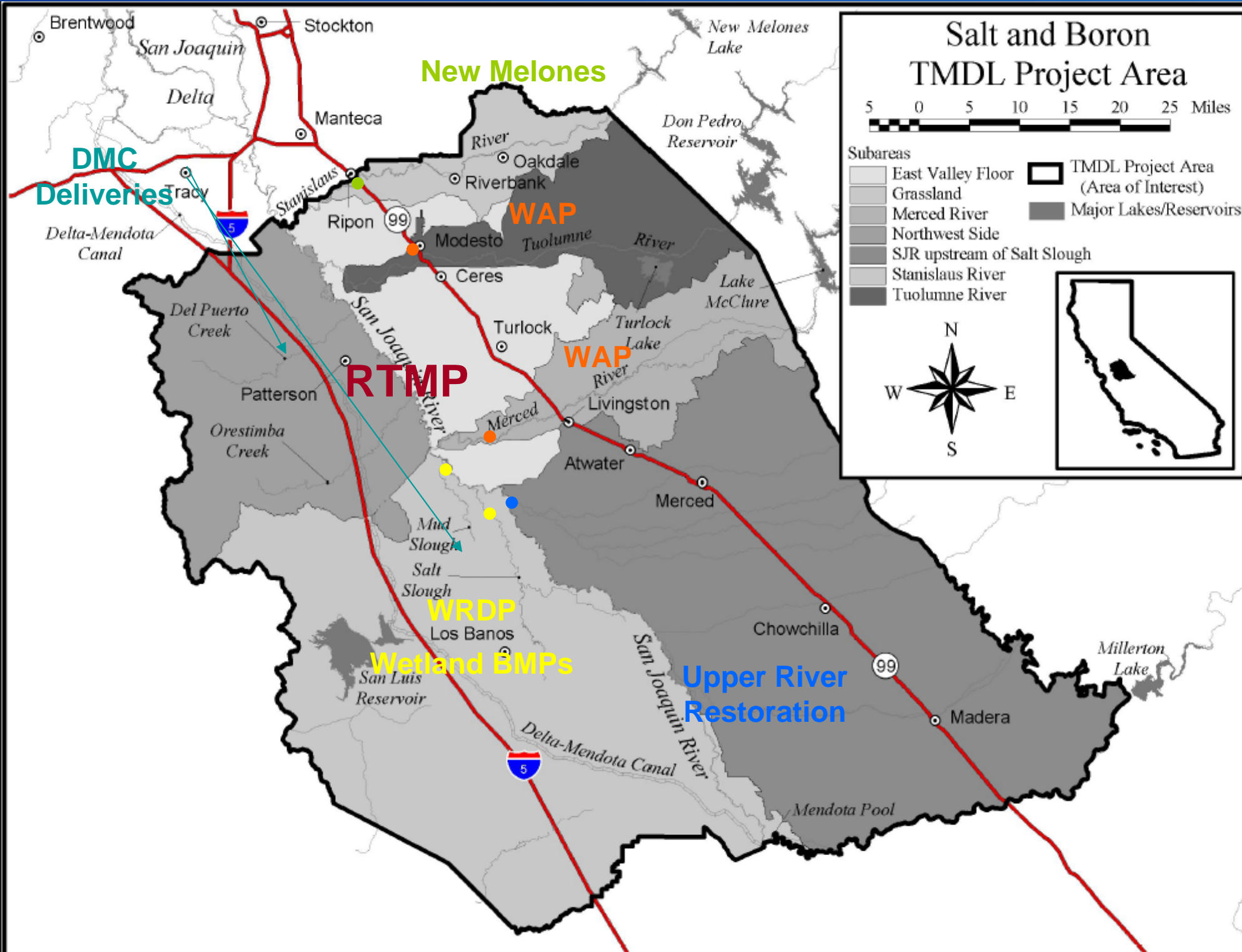
Management Agency Agreement

- Requirement of the Basin Plan (Salinity and Boron TMDL for the Lower San Joaquin River)
- Executed in December 2008 by Regional Water Board and Reclamation
- Cooperative implementation, initially a 2 year monitoring, assessment and reporting program
- Contains several reporting agreements
- Contains a goal of 25 percent reduction and/or offset of salts transported to basin by CVP
- Refers to Reclamation Action Plan

Draft Compliance Evaluation and Monitoring Plan

Contents (2008 monthly data)

- Action Plan Elements
 - Status
 - Quantification of Potential Load Offsets
- DMC Supply Water Load
 - Methodology for Calculations
- Future Reclamation Actions
 - Status
 - Quantification of Potential Load Offsets
- Vernalis Water Quality
- Summary of Potential Offsets to DMC Loads
- Proposal for Continuing Public Participation



Draft Compliance Evaluation and Monitoring Plan

- First draft of Plan submitted on January 1, 2009
- Second draft submitted to Executive Director of Regional Board for approval on July 1, 2009
- Next draft will be submitted on January 1, 2010
- Final Compliance Evaluation and Monitoring Plan due to Regional Board by July 1, 2010

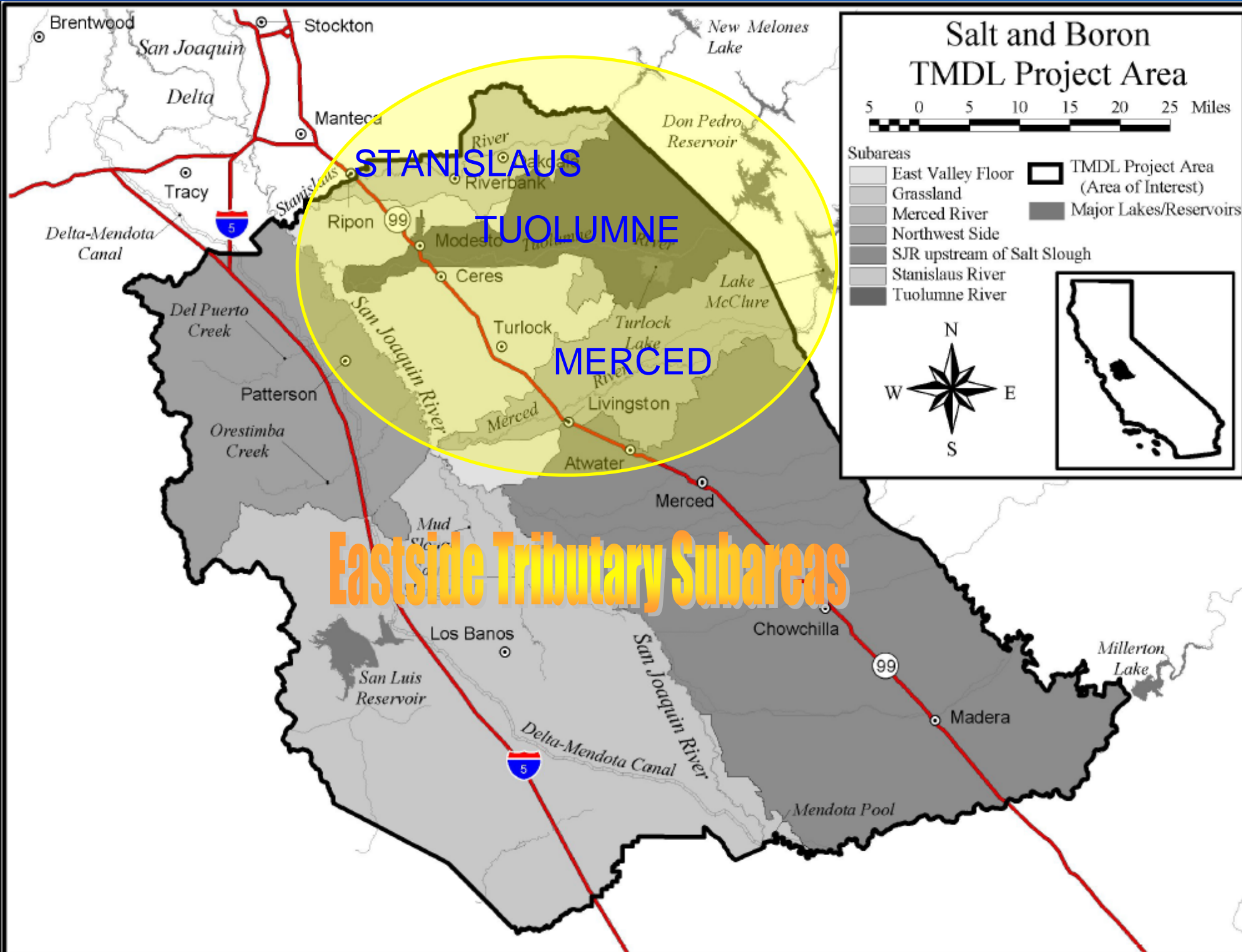
Eastside Tributaries

-Agenda-

- Eastside Subareas Defined
- Data Sources
- Actual Loads
- Allocations
- Potential offsets

Eastside Tributaries -Defined-

- **Stanislaus River Subarea**
- **Tuolumne River Subarea**
- **Merced River Subarea**



Eastside Tributaries

-Data Sources-

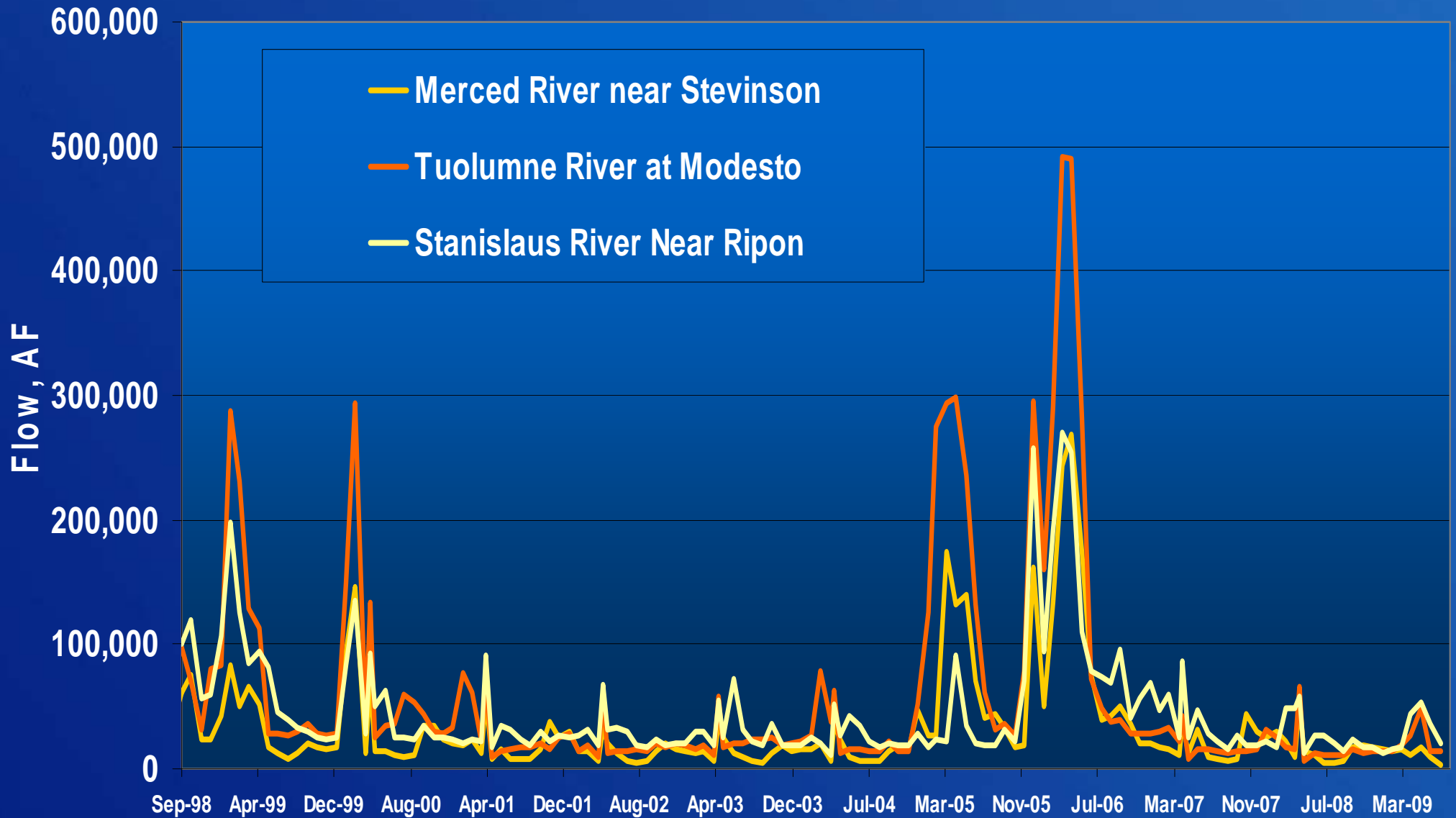
Hourly/event EC:

- **Stanislaus River at Ripon (Reclamation, RPN)**
- **Tuolumne River at Merced (DWR, MOD)**
- **Merced River at Stevinson (DWR, MST)**

Continuous discharge, cfs :

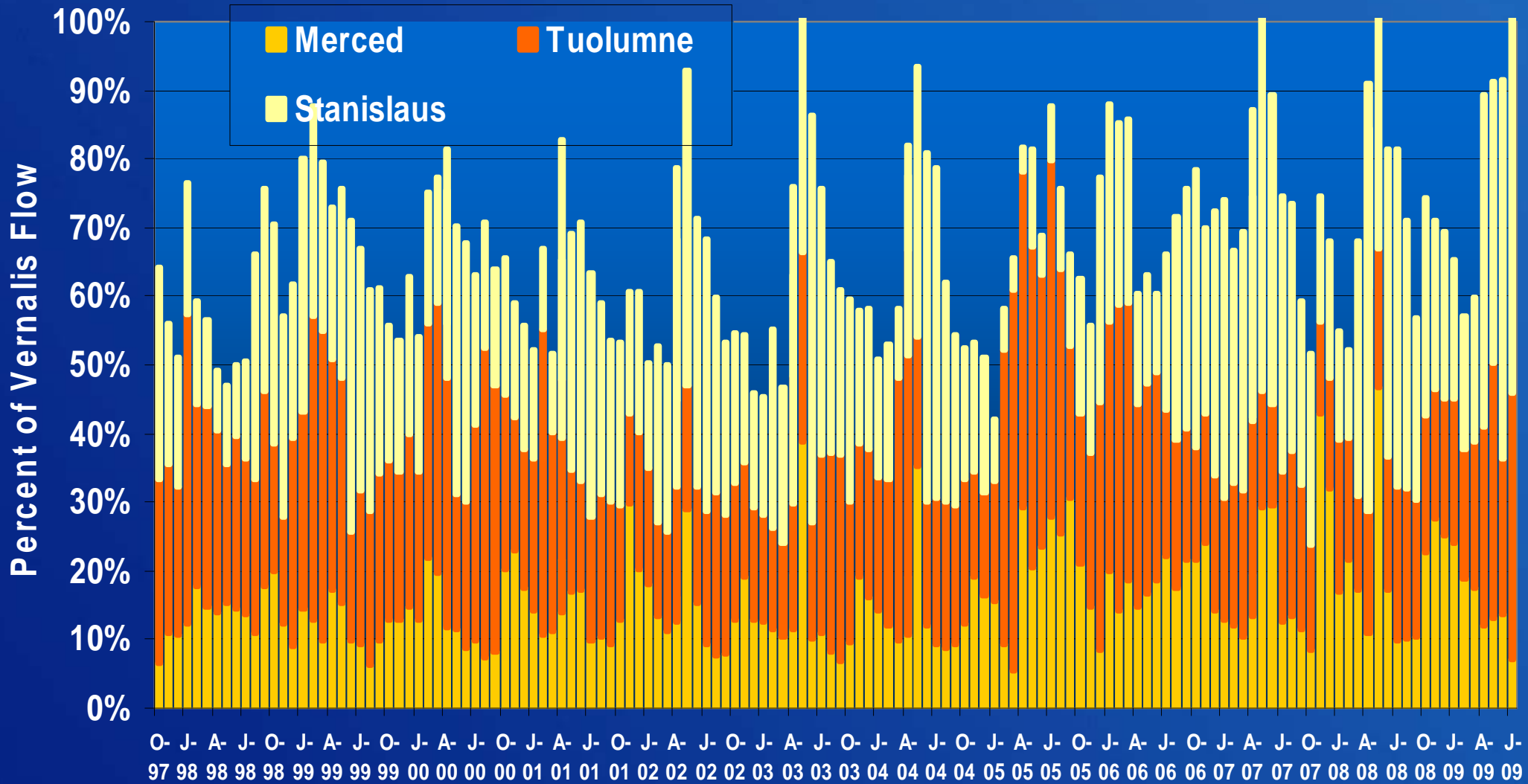
- **Stanislaus River at Ripon (USGS, 11303000)**
- **Tuolumne River at Merced (USGS, 11290000)**
- **Merced River at Stevinson (USGS, 11272500)**
- **Merced River at Stevinson (DWR, B05125 MST)**

Eastside Tributaries -Flow Data-



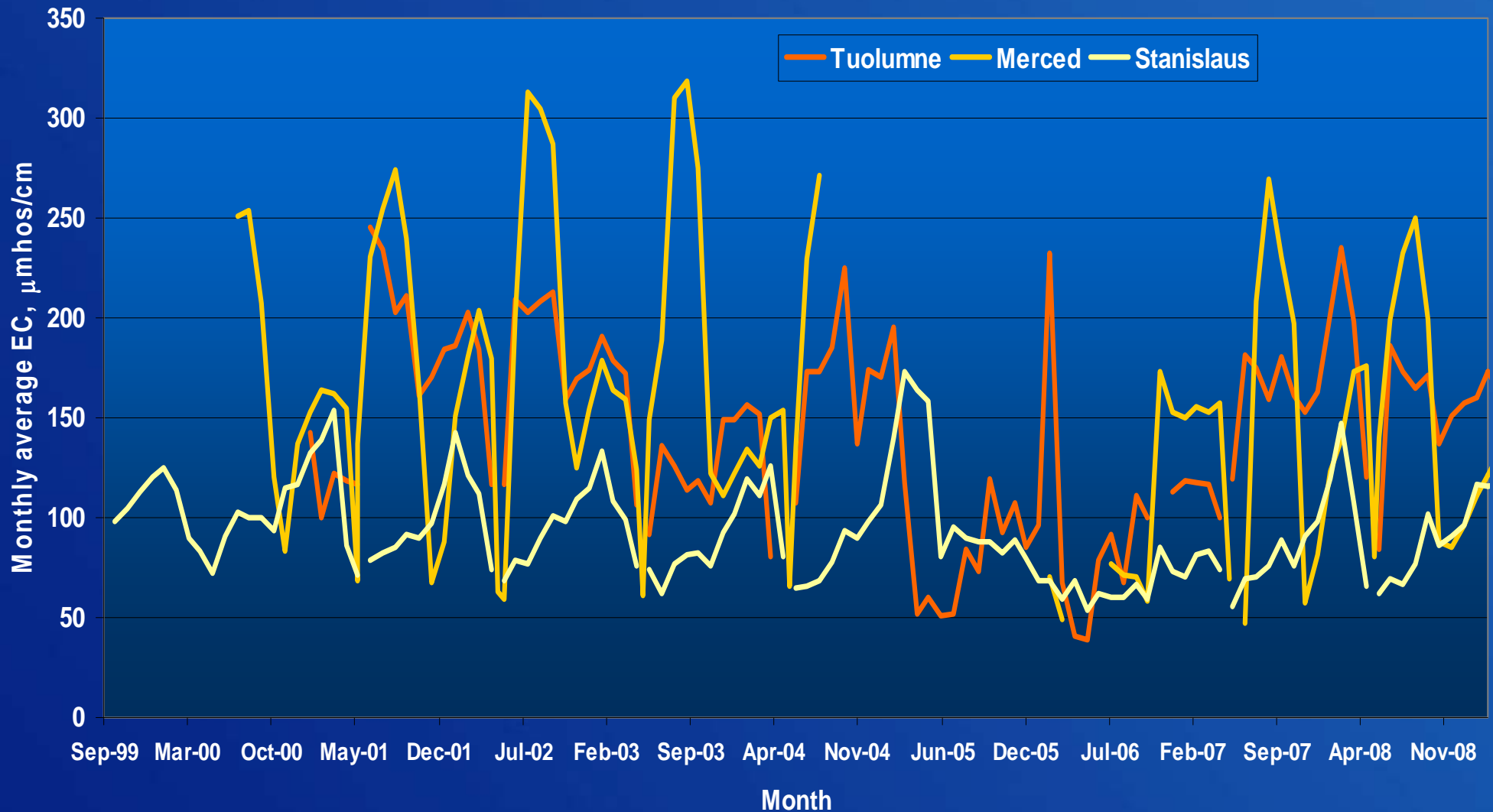
RECLAMATION

Eastside Tributaries -Flow Data-



Eastside Tributaries

-EC Data-



Eastside Tributaries

-TMDL Allocation and Load Calculations-

Subarea Allocation = Base LA + CUA

Where:

Base LA = Value from Table 4-12

CUA = Trigger Value * Actual Flow

Subarea Load = TDS/EC * Actual monthly average
EC * Actual total monthly Flow volume,
measured at downstream location * conversion
factor

TDS/EC = 0.69 for Stanislaus, 0.67 for Tuolumne,
and 0.66 for Merced (per TMDL)

Eastside Tributaries

-TMDL Allocation Calculation-

Subarea Allocation



Consumptive Use Allowance:
Actual flow *
trigger value

Subarea Base Load Allocation:
Table 4-15

Subarea Load



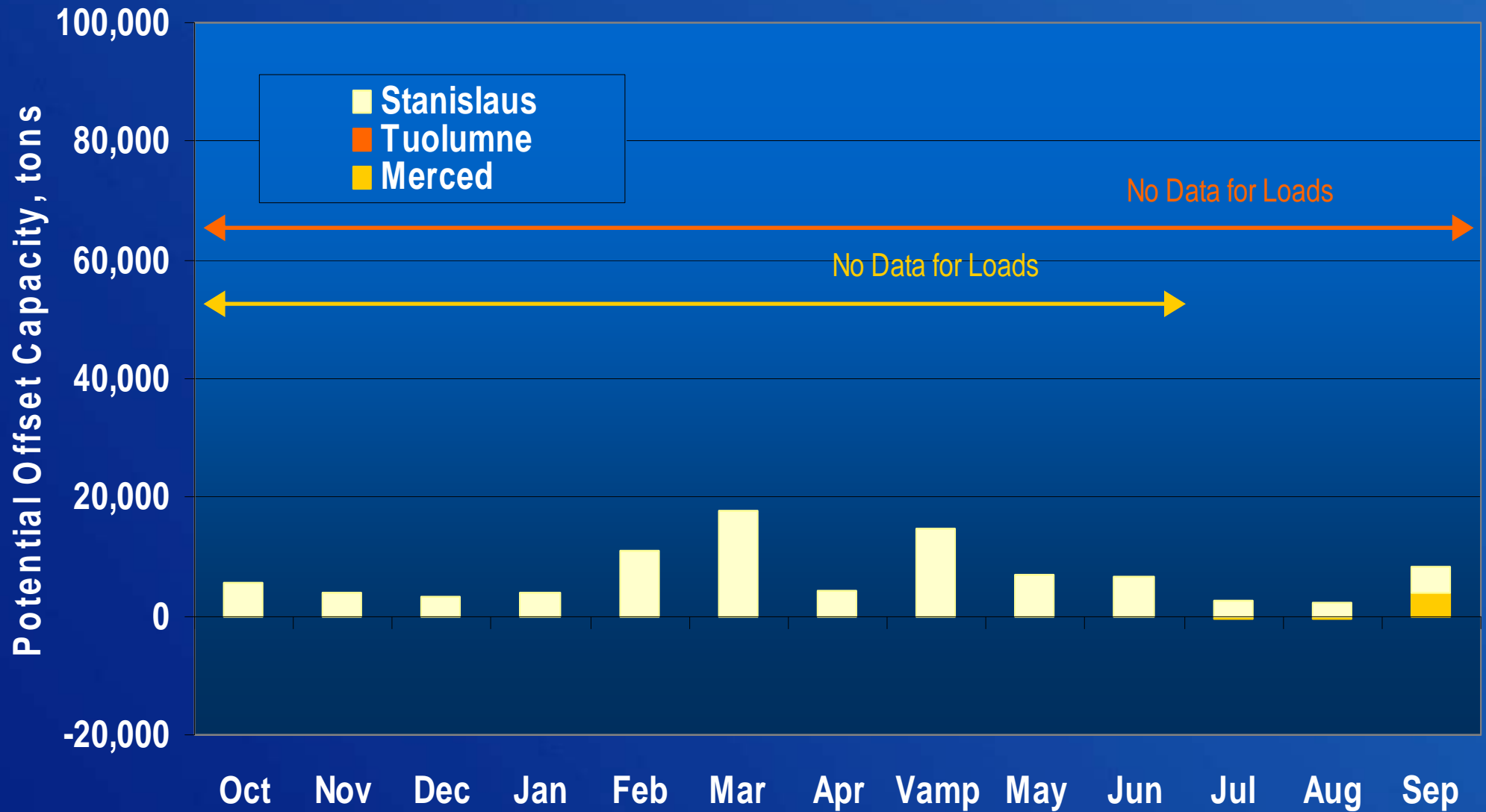
Actual Load:
Actual flow *
actual EC



Assimilative Capacity from Subarea:
Allocation – Actual Load

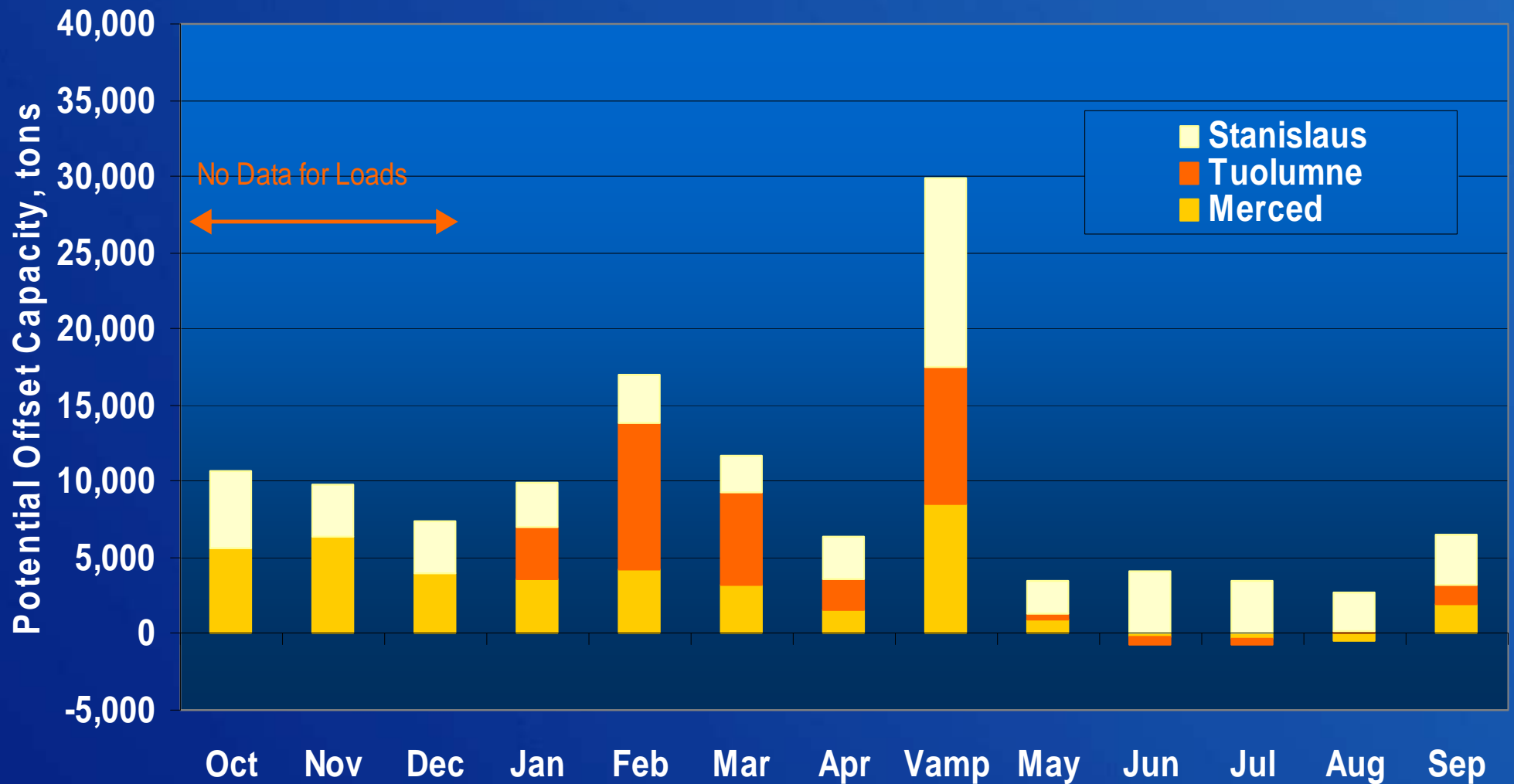
Eastside Tributaries

-2000 (AN) Potential Offsets-



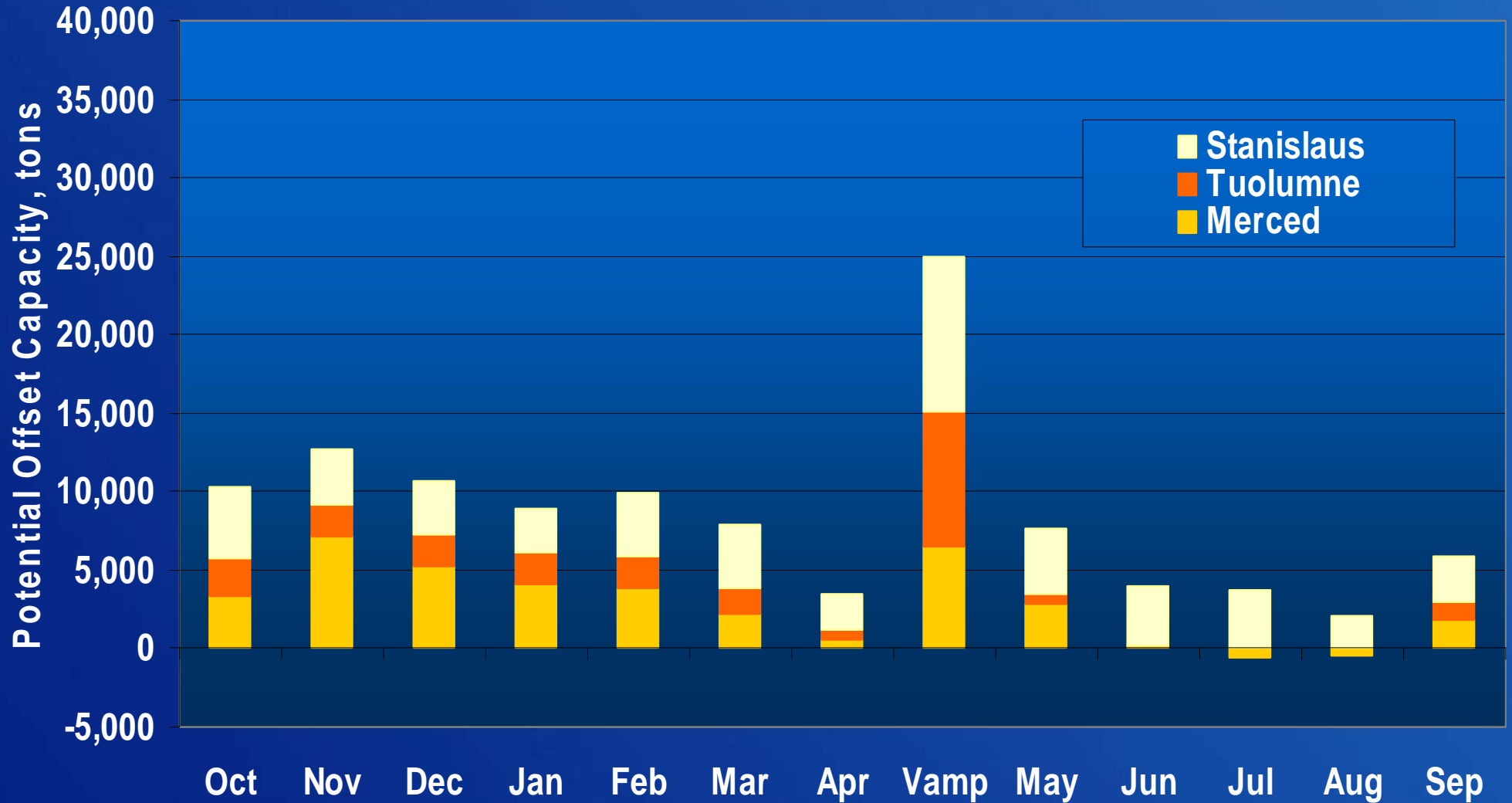
Eastside Tributaries

-2001 (D) Potential Offsets-



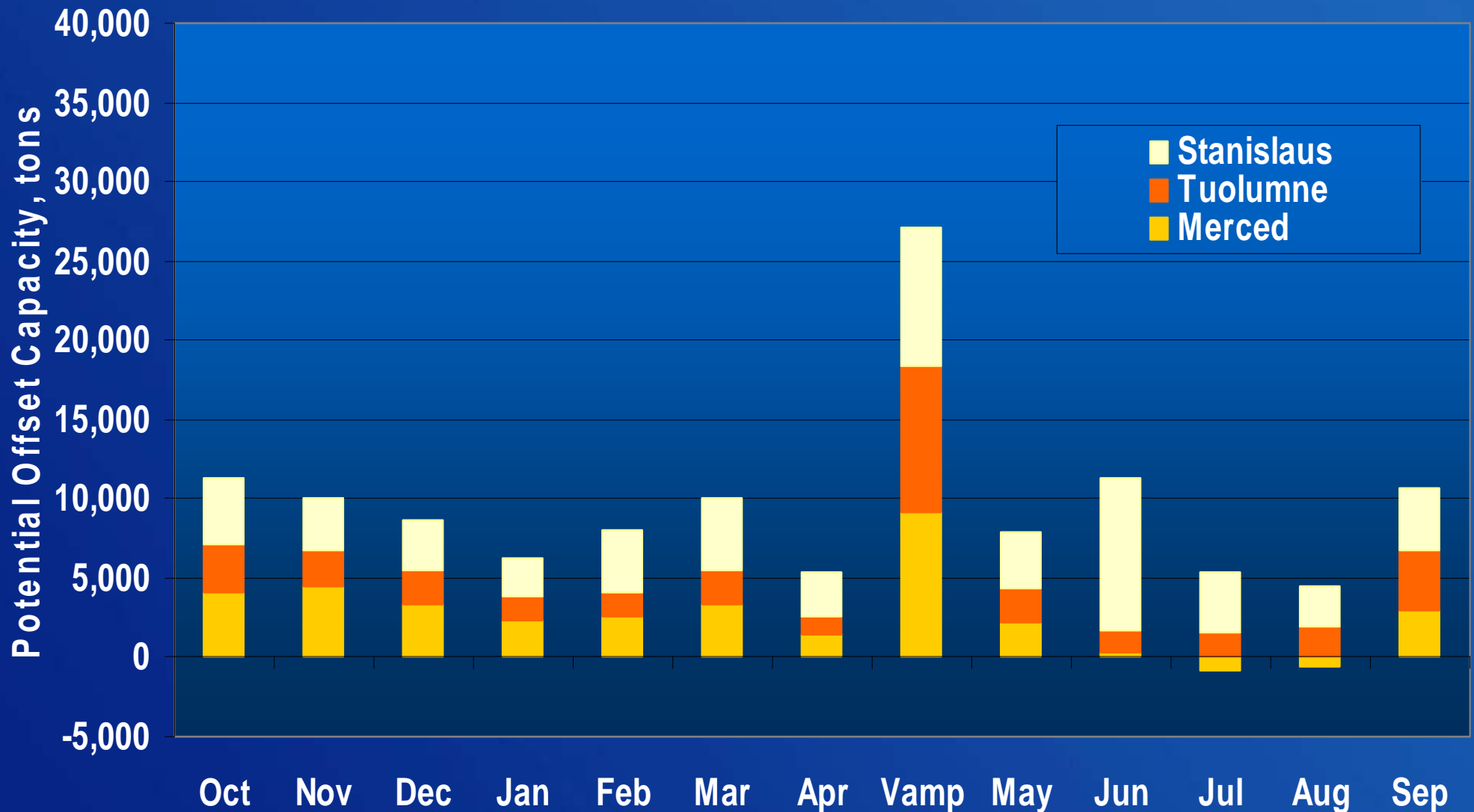
Eastside Tributaries

-2002 (D) Potential Offsets-



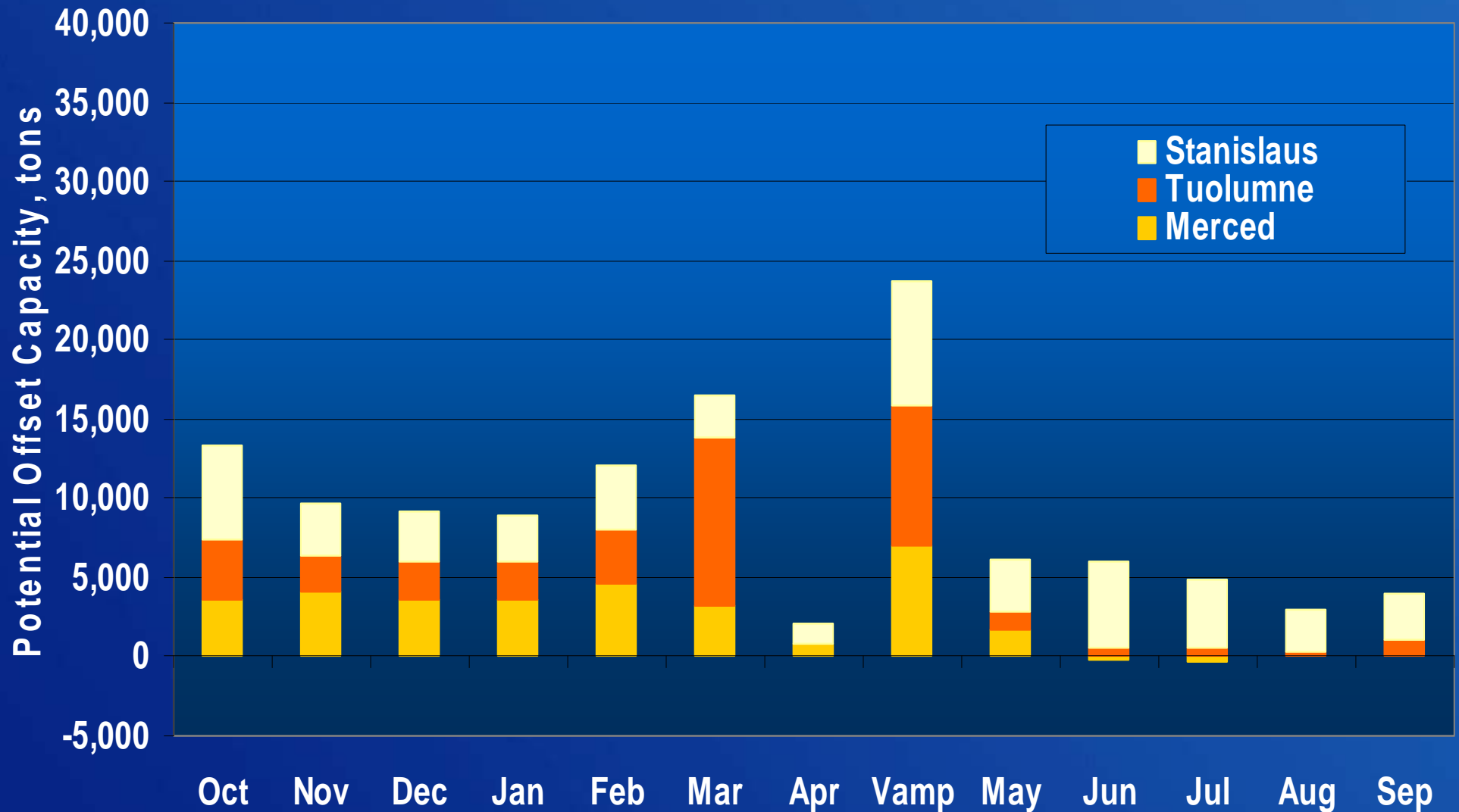
Eastside Tributaries

-2003 (BN) Potential Offsets-



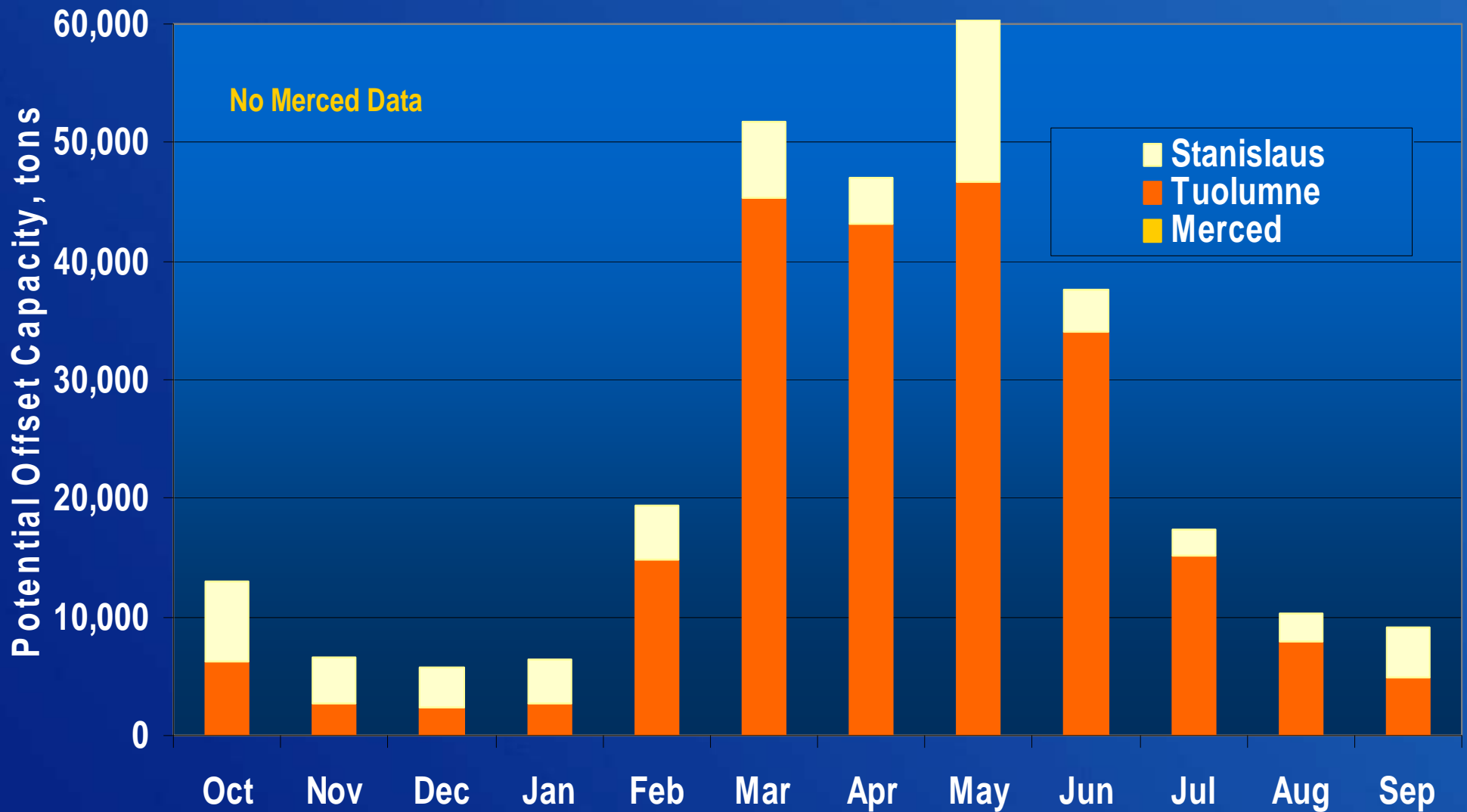
Eastside Tributaries

-2004 (BN) Potential Offsets-



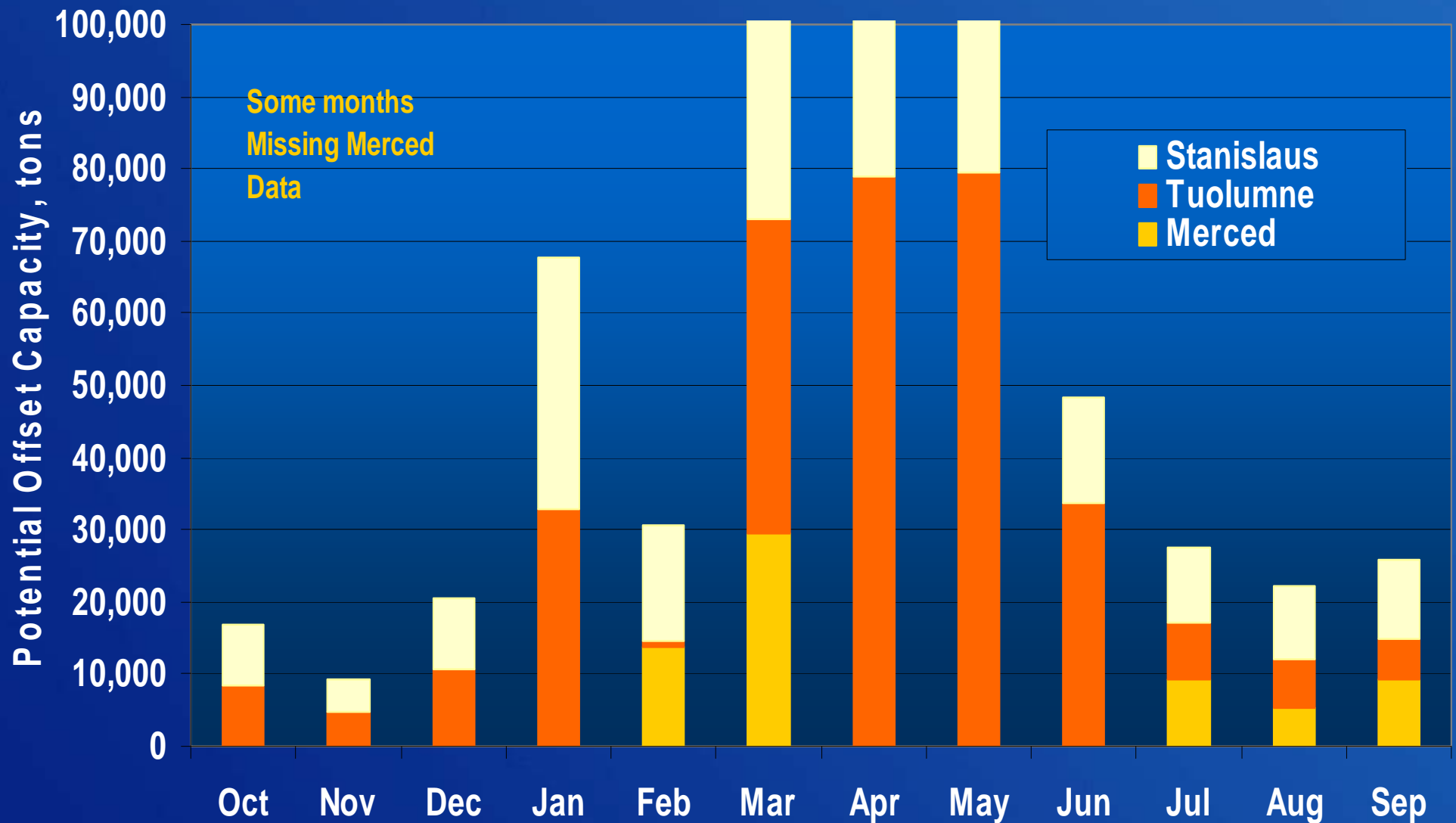
Eastside Tributaries

-2005 (W) Potential Offsets-

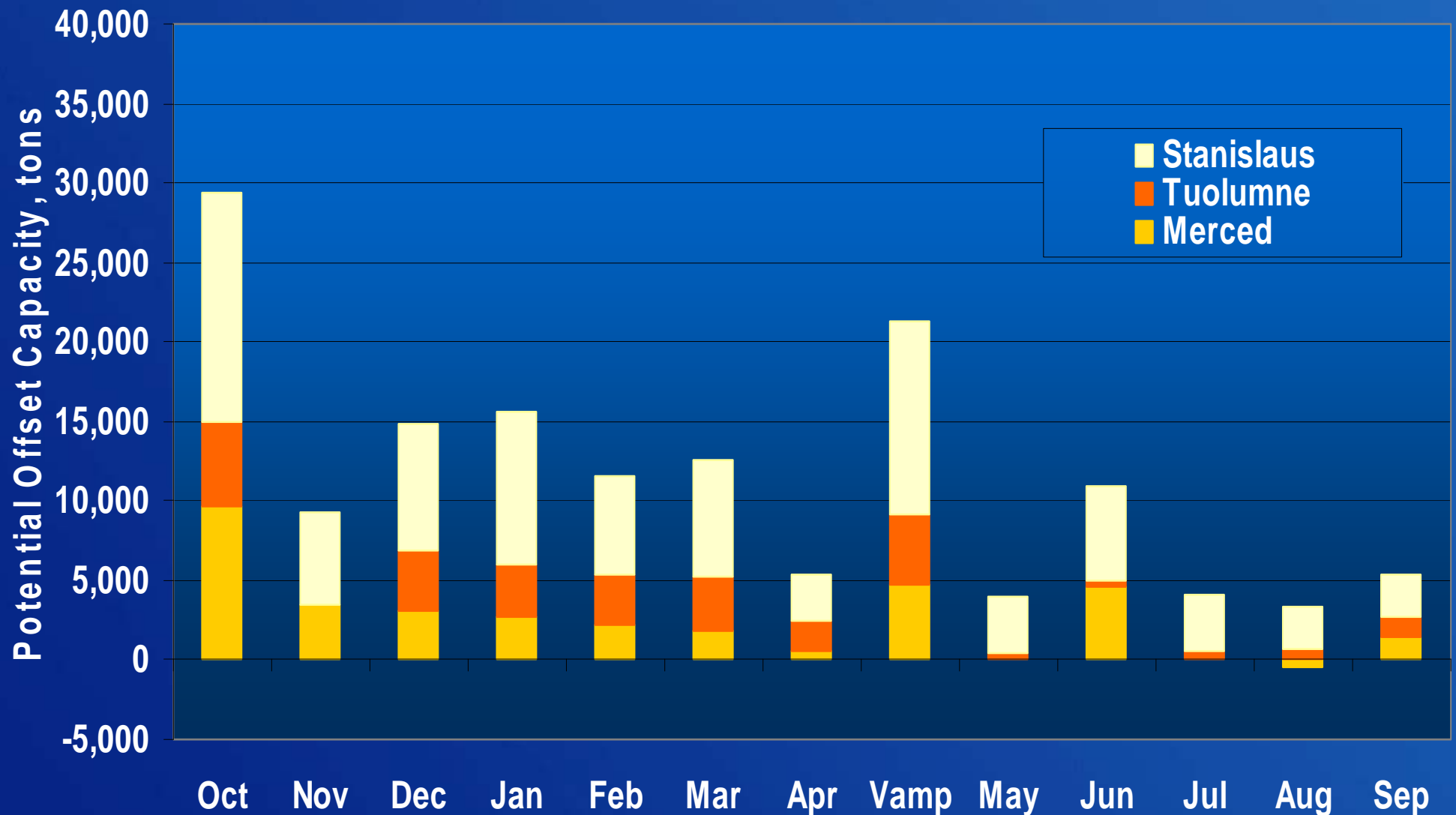


Eastside Tributaries

-2006 (W) Potential Offsets-

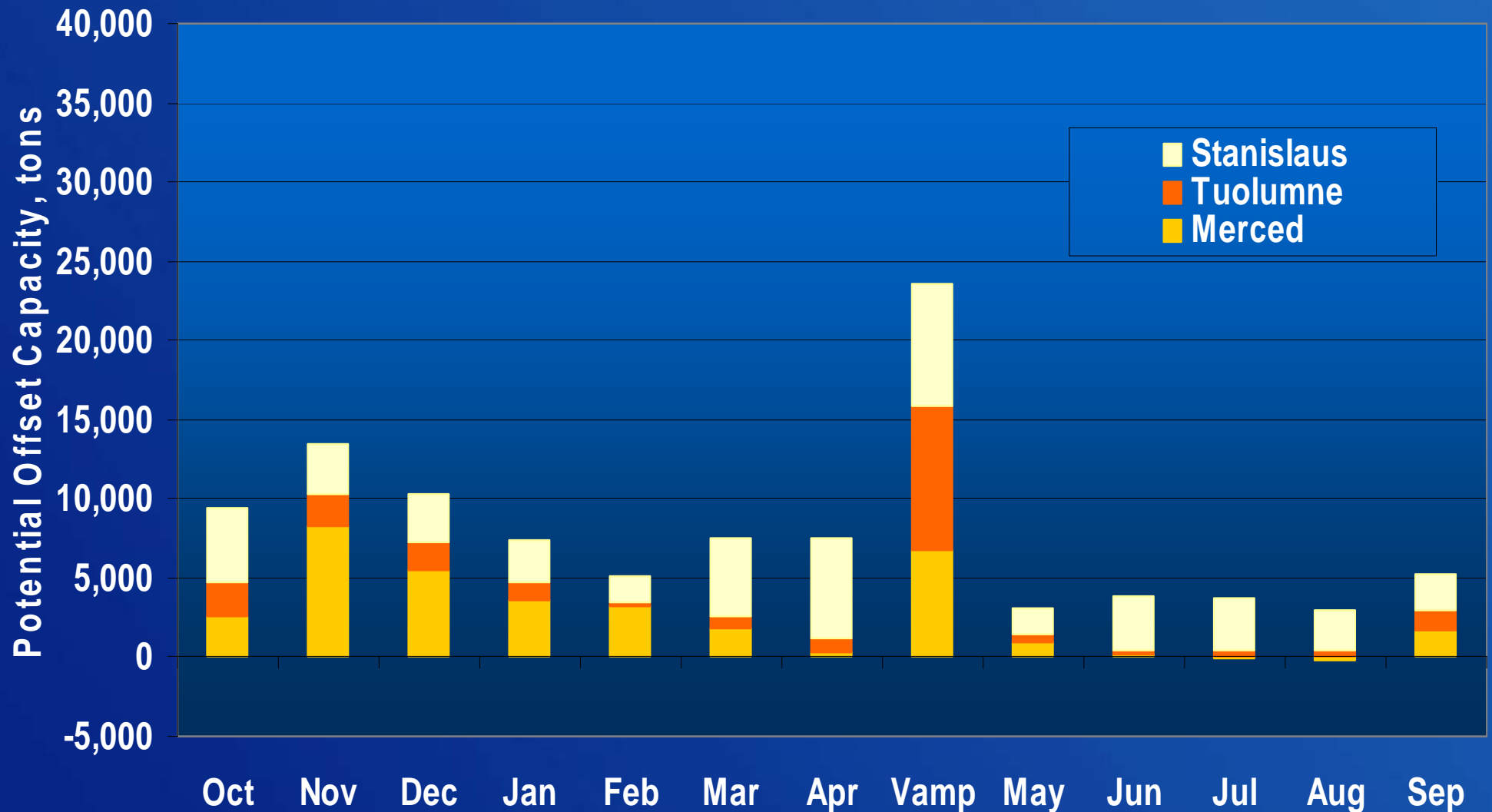


Eastside Tributaries -2007 (C) Potential Offsets-



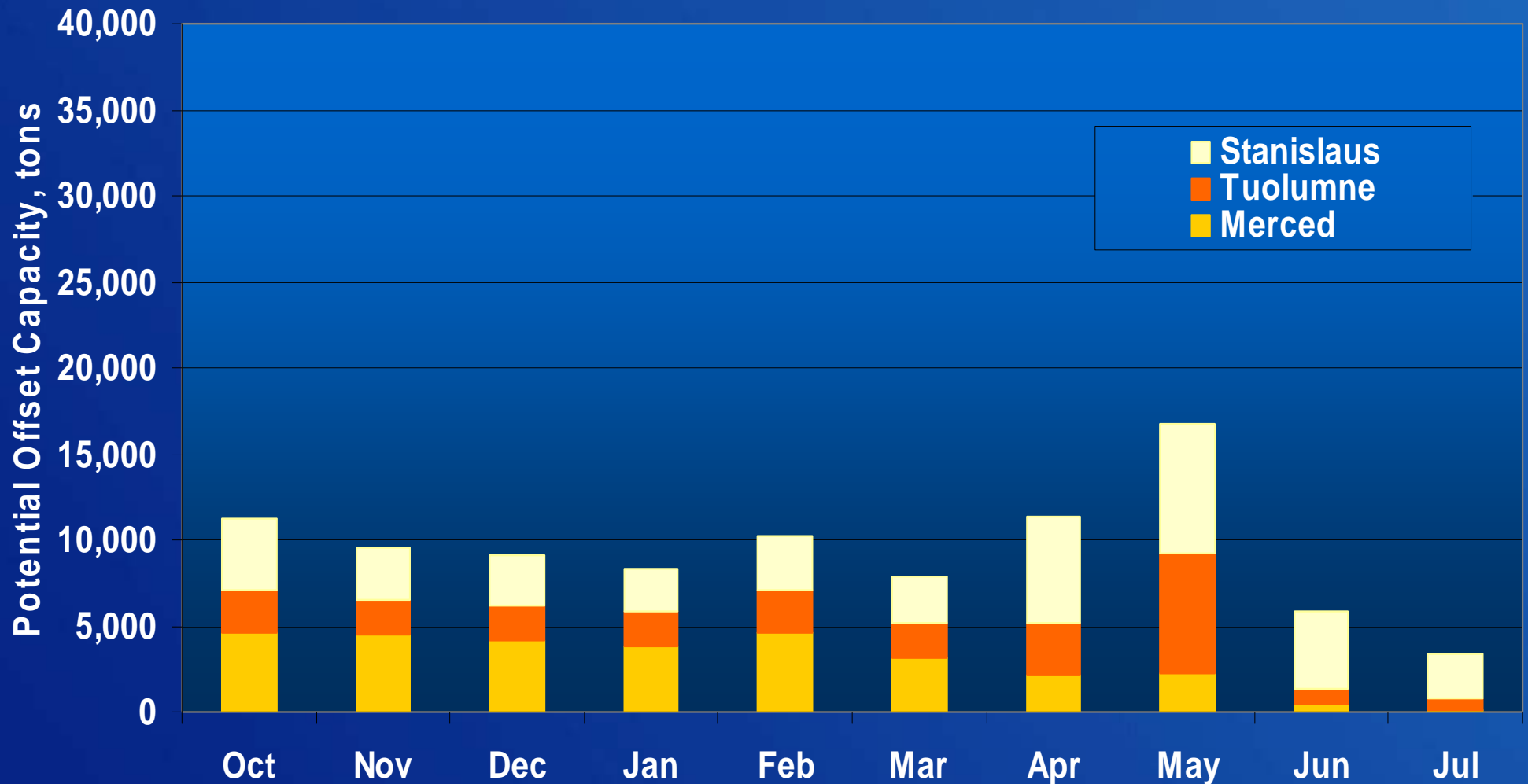
Eastside Tributaries

-2008 (C) Potential Offsets-



Eastside Tributaries

-2009 (D) Potential Offsets-



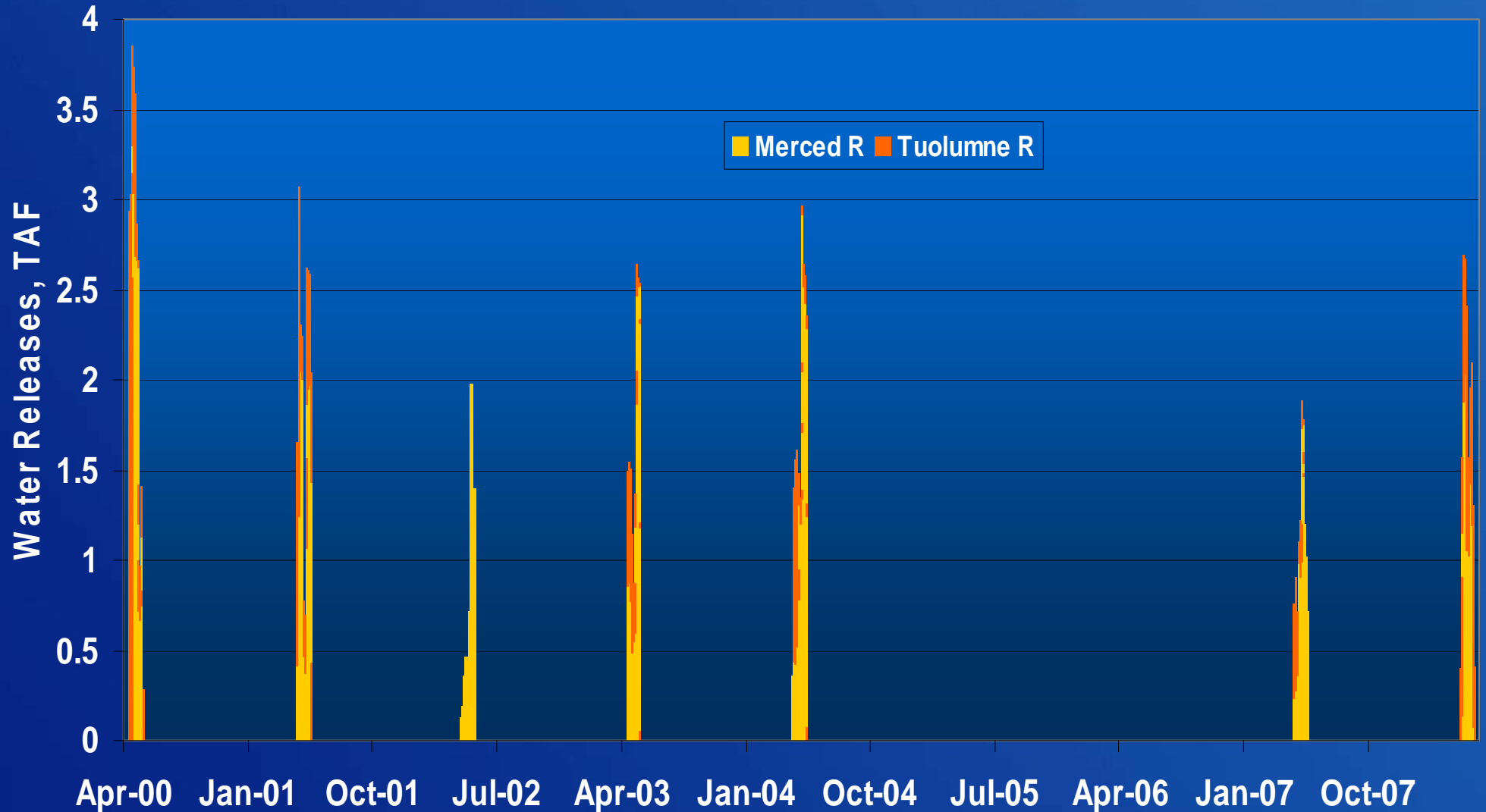
VAMP in the TMDL

- TMDL has Load Allocations under VAMP conditions and under non-VAMP conditions (Tables 4-8 and 4-12)
- VAMP period timing can change from year to year, so LA calculations, DMC deliveries were adjusted based on percentage of month
- Actual flows and loads are based on SJRA reporting and time to reach Vernalis

VAMP Timing

Year	VAMP Start	VAMP End
2000	April 15	May 15
2001	April 20	May 20
2002	April 15	May 15
2003	April 15	May 15
2004	April 15	May 15
2007	April 22	May 22
2008	April 22	May 22

VAMP Flows from Tuolumne and Merced



Meeting Schedule

July 28: CVP Delivered Load

Data Sources, Calculations

August 4: Westside Regional Drainage Plan

Subarea Load Calculations, Groundwater Load
CVP Water Supply Credit, Assimilative Capacity

August 17 : Unquantified Subareas

Data Availability, Subarea load quantification

August 24: Eastside Tributary Dilution Flows

Subarea Load Calculations, Potential Offsets

TBD: Real-Time Management Program

Status of Efforts, Assimilative Capacity, Potential Uses

TBD: Offsets, Credits, Trading

Application of Potential Offsets, Credits to CVP-Delivered Loads

Contacts

Draft Plan is posted at:

http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/vernalissalt_boron/

Reclamation Contact:

[Lisa Holm \(lholtm@usbr.gov\)](mailto:lholtm@usbr.gov)

Regional Water Board Contact:

[Gail Cismowski \(gcismowski@waterboards.ca.gov\)](mailto:gcismowski@waterboards.ca.gov)